

WHAT IS CLAIMED IS:

1. An electrochemical cell assembly, comprising:
a plurality of testing cells, each of said testing cells including a working electrode and a counter electrode;
a reference cell, said reference cell including a reference electrode; and,
a plurality of fluid connections for connecting each of said plurality of testing cells with said reference cell.
2. The electrochemical cell assembly according to claim 1, wherein said working electrode is selected from the group consisting of rotating disk electrodes and ring-disk electrodes, and wherein said assembly further comprises a plurality of rotators, each of said rotators being associated with one of said working electrodes.
3. The electrochemical cell assembly according to claim 1, wherein said rotators are motors.
4. The electrochemical cell assembly according to claim 3, further comprising a controller, said controller being connected to said plurality of motors and being operable to control a speed of each of said motors so as to rotate said working electrodes at a desired rotational speed.

5. The electrochemical cell assembly according to claim 4, wherein the speed of rotation of each of said working electrodes is independently controlled.

6. The electrochemical cell assembly according to claim 2, wherein said plurality of testing cells, said reference cell, and said fluid connections each hold a testing solution.

7. The electrochemical cell assembly according to claim 6, wherein said fluid connections are provided by pipes extending between said reference cell and said testing cells.

8. The electrochemical cell assembly according to claim 7, wherein said pipes are siphon-type fluid connections.

9. The electrochemical cell assembly according to claim 1, wherein said reference electrode serves as a common reference electrode for each of the plurality of testing cells.

10. The electrochemical cell assembly according to claim 9, wherein said working electrode is selected from the group consisting of rotating disk electrodes and ring-disk electrodes, and wherein said assembly further comprises a plurality of motors, each of said motors being associated with one of said working electrode.

11. The electrochemical cell assembly according to claim 9, further comprising a controller, said controller being connected to said plurality of motors and being operable to control a speed of each of said motors so as to rotate said working electrode at a desired rotational speed.

12. The electrochemical cell assembly according to claim 11, wherein the speed of rotation of each of said working electrodes is independently controlled.

13. The electrochemical cell assembly according to claim 11, wherein said plurality of testing cells, said reference cell, and said plurality of fluid connections each hold a testing solution.

14. The electrochemical cell assembly according to claim 13, wherein said fluid connections are provided by pipes extending between said reference cell and said testing cells.

15. The electrochemical cell assembly according to claim 13, wherein said pipes are siphon-type fluid connections.

16. A method for testing plural chemical compositions in an electrochemical cell assembly according to claim 1, comprising the steps of:

filling said testing cells and said reference cell a predetermined amount with a testing solution;

rotating each of said working electrodes at a predetermined speed;
applying a reference potential to said testing solution via the reference electrode;
developing a current in said testing solution between each of the counter electrodes and an associated one of said working electrodes; and,
measuring a current at each of the working electrodes;
using the measured current at defined potential to determine intrinsic kinetic properties of said chemical compositions.

17. The method according to claim 15, wherein the working electrodes are rotated at a common speed.

18. The method according to claim 15, comprising the further step of wherein the working electrodes are rotated at different speeds.

19. An electrochemical cell assembly, comprising:
a plurality of testing cells, each of said testing cells including a working electrode and a counter electrode;
a reference cell, said reference cell including a reference electrode, said reference electrode serving as a common reference electrode for each of the plurality of testing cells;
a plurality of fluid connections for connecting each of said plurality of testing cells with said reference cell,

a plurality of rotators, each of said rotators being associated with one of said working electrodes; and,

a motor that is adapted to rotate each of said rotators.

20. The electrochemical cell assembly according to claim 19, wherein said motor is mechanically coupled to each of said rotators.

21. The electrochemical cell assembly according to claim 19, wherein said motor is magnetically coupled to each of said rotators.